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(54) DEVICE FOR DISTRIBUTING PACKAGING MATERIAL.

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Description

The present invention relates to a device for distributing packaging material. The packaging material preferably is in the form of bags, e.g. of plastic, for packaging different types of products, such as food, e.g. loaves of bread, but also other products, such as serviettes or table-cloths.

Automatic packaging in bags, also of such unrelated product groups as those mentioned above, is carried out more or less in the same manner. Preprinted bags, preferably made of plastic, are placed in a packaging machine where one bag at a time is inflated to render accessible the bag opening so that the product may be introduced into the bag. Then, the bag now containing the product is sealed and taken away.

From CH-A5-568,884 it is known to hold a number of plastic bags by means of a U-shaped retainer hoop. The bags and the hoop are mounted on a box blank, for instance made of cardboard. Before transport, the box blank is folded about the stack of bags. To protect the bags, a cover member can be placed on top of the stack before the blank is folded to form a box which is open at its short sides.

FR-A-2,385,589 discloses another type of retainer hoop. In this case, however, the purpose of the bags and the hoop is completely different from that of the device according to the present invention.

It is further known in the art to mount the hoop add the bags on a backing made of cardboard, through which the legs of the hoop can pass so that the free ends thereof project from the side of the backing facing away from the bags. To prevent the hoop from slipping out of the backing and the bags, a locking means, e.g. in the form of an apertured rubber plate, is provided at each free end of the hoop on the rear side of the backing. Furthermore, a band encloses the bags and the backing to prevent the bags from sliding on one another and becoming deformed during transport. In most cases, the stack of bags is also placed in a box for distribution to the user, e.g. a bakery.

FR-A-2,009,290 discloses a box blank which is mainly made up of a bottom, side panels, and top panels covering the short sides.

The user opens the box and the retainer hoop is fastened in the packaging machine, whereupon the band, if any, is removed and the packaging of the products begins.

The stack of bags is extremely difficult to handle even if a very rigid backing is used. The slippery bags slide against one another, and the risk that the bags are creased or folded is considerable, especially when the stack is placed in the box. The same inconvenience faces the user who

may have to scrap a number of bags and, in some cases, also the product itself, e.g. a loaf of bread which is not caught in the bag but lands on the floor. Another well-known inconvenience is the so-called "blocking" which occurs when a stack of plastic bags is pressed together. "Blocking" implies that the surfaces of the bags stick together, thus making it difficult and, in some cases, even impossible to open the bags. This leads to malfunctioning and ensuing considerable waste as well as to stoppage. Thus, it is important that the bag manufacturer provides bags which are easier to handle and of higher quality.

One object of the present invention is, therefore, to provide a device for distribution of packaging material which has fewer component parts and thus greatly facilitates the handling both by the manufacturer and by the user, and ensures a high product quality throughout.

Moreover, the device must be rigid enough to effectively protect the stack of bags and prevent blocking when a plurality of devices are superimposed.

These and other objects are achieved by means of a device as defined in appended claim 1.

Other distinctive features and advantageous embodiments are stated in the subclaims.

The invention will now be described in more detail, reference being had to the accompanying drawings which, inter alia, illustrate embodiments of the device according to the invention, and in which

Fig. 1 is a perspective view of a known stack of bags,

Fig. 2 is a top plan view of a first embodiment of a blank adapted to form a transport container for bags,

Fig. 3 is a perspective view of the transport container formed from the blank in Fig. 2,

Fig. 4 is a top plan view of a second embodiment of the blank adapted to form a transport container for bags, and

Fig. 5 is a perspective view of the transport container formed from the blank in Fig. 4.

Fig. 1 illustrates the known technique of packaging and distributing bags for different types of products. By means of a U-shaped bag retainer hoop 4, bags 2 are fixed to a backing 6, preferably made of cardboard. Each leg 8, 10 of the retainer hoop 4 is securely held in position by locking means 12 and 14, respectively, in the form of circular rubber plates formed with a central hole. To stabilise the stack of bags, a band 16 is tied around the bags and the backing. It is appreciated that especially the corner areas 18a, 18b, 18c and 18d of the bags are liable to external damage, such as creasing, and that the entire stack is subjected to the risk of blocking, which may force the user to scrap the bag/bags and, in some cases, also the

product, either because the bag cannot be opened to receive the product which then lands on the floor beside the packaging machine, or for aesthetical reasons.

Figs. 2 and 3 illustrate a first embodiment of the device according to the invention. Fig. 2 is top plan view of a box blank 20 adapted to form a transport container 22 which is shown in perspective in Fig. 3. The box blank has a substantially rectangular surface 24 which is to form the bottom of the transport container 22. Side panels 26, 28, 30 and 32 are to form the side walls of the container, and top panels 34, 36, 38 and 40 are to form the upper side or top thereof. To fix the panels to one another, the top panels 36 and 40 have adhesive areas 36a, 36b and 40a, 40b, respectively, (see Fig. 2) so that the top panels 36 and 40 can be attached to the panels 34 and 38, respectively, to form a substantially parallelepipedal body.

Each bag has two holes, and the distance between these holes corresponds to the distance between the legs of the retainer hoop. The legs 8, 10 of the retainer hoop are passed through the holes of the bags, whereupon the hoop with the bags, which for the sake of clarity are not shown in the drawing, is placed in a predetermined position of rest on the bottom 24 of the blank 20 near the side panel 28. Then, the panels 26, 34 and 30, 38 are folded upwards, and the panels 28, 36 and 32, 40 are folded inwards at right angles to the panels 26, 34 and 30, 38, respectively, so that the adhesive areas 36a and 36b of the panel 36, and 40a and 40b of the panel 40 will adhere to the panels 34 and 38, respectively. When the transport container 22 is closed, the top panel 36 bends the hoop 4 down against the bags, such that the hoop 4 is maintained in place and its pointed ends are covered and that, furthermore, the area around the holes of each plastic bag is protected. In this manner, the side walls and the upper side of a substantially parallelepipedal body 22 (see Fig. 3) are formed, which at least partly encloses the bags supported on the bottom 24.

Figs. 4 and 5 illustrate a second embodiment of the device according to the invention. This second embodiment is similar to the first embodiment shown in Figs. 2 and 3, for which reason like reference numerals apply to like parts.

Fig. 4 is a top plan view of a box blank 42 adapted to form a transport container 44 which is shown in perspective in Fig. 5 and which highly resembles the container 22 shown in Fig. 3. The difference between the box blank 42 in Fig. 4 and the box blank 20 in Fig. 2 is that the blank 42 has flaps 46, 48, 50 and 52 at the short sides of the top panels 36 and 40. As stated below, these flaps are to be inserted into slits 52, 54, 56 and 58.

Also in this embodiment, the retainer hoop 4 with the bags, which for the sake of clarity are not shown in the drawing, is placed in a predetermined position on the bottom 24 near the side panel 28, after a predetermined number of bags have been fixed to the retainer hoop 4. Thus, the bags are supported on the bottom 24. Then, the panels 26, 34 and 30, 38 are folded upwards. The slits 52 and 56 are formed on the folding line between the panel 26 and the panel 34, while the slits 54 and 58 are formed on the folding line between the panel 30 and the panel 38. Each of the slits 52, 54, 56 and 58 has a length corresponding to the extension of the respective flap in the longitudinal direction of the blank, i.e. they are slightly shorter than the short sides of the top panel 36, 40 at issue. After the panels 26, 34 and 30, 38 have been folded, the top panels 34 and 38 will be substantially parallel to the bottom 24, and the slits 52, 54, 56 and 58 will be located in the crease between the top panels 34, 38 and the side panels 26, 30, respectively. Then, the flaps 46, 48, 50 and 52 are folded away from the blank at right angles to the top panel 40, 36 at issue. After the panels 28, 36, 32, 40 have been folded upwards, the flaps 46, 48, 50 and 52 can thus be inserted in the corresponding slits 52, 54, 56 and 58, respectively, so as to form the substantially parallelepipedal body 44 shown in Fig. 5. Also in this case, the loose retainer hoop 4 is bent down against the bags when the top panel 36 is folded inwards to cover the hoop and protect the bags.

It is preferred that the total area of the top panels 34, 36, 38 and 40 is smaller than the area of the bottom 24, so that an opening can be formed in the upper side of the erected transport container, thus allowing identification of the contents without opening the container.

Since the bags are placed on a box blank which is then formed into a torsionally rigid and self-supporting transport container at least partly enclosing the bags, the corner areas of the bags are protected against mechanical damage, such as creasing and bending. Blocking of the stack of bags is prevented also when a plurality of transport containers are superimposed, as for example in a storage. In another embodiment of the invention which has not been described, the side panels 26, 28, 30 and 32 are folded upwards to form a box-shaped container completely open at the top, and the retainer hoop with the bags is thereafter placed on the bottom 24. Then, the top panels 34, 36, 38 and 40 are folded inwards to form the transport container.

The transport container according to the invention is useful also to the user. The bags, which are well protected, retain their high quality almost regardless of how the transport container is handled.

The rigid transport container makes it easy to store the bags, and the contents of the container are readily identified through the opening. Furthermore, since there is no need for hoop locking means the monotonous manual application of such hoop locking means is avoided.

It goes without saying that the embodiments described above and shown in the drawings are only examples of the present invention. Naturally enough, the design of the transport container depends on the size of the retainer hoop and on the shape of the bag to be filled and distributed. Also, the materials for the bag and the container may be other than stated above. Thus, it is conceivable to use paper bags and plastic transport containers, in which case the opening in the upper side may be covered by a transparent plastic sheet or film. Furthermore, the adhesive areas may be located elsewhere, e.g. on the elongate top panels 34, 38.

Claims

1. A device for distributing packaging material, comprising a plurality of bags (2) for packaging different types of products, a U-shaped bag retainer hoop (4) adapted to be fastened in a packaging machine, and a box blank (20, 42), in which the bag retainer hoop (4) and the bags (2) are placed in a predetermined position of rest on a bottom (24) of said box blank (20, 42), **characterised** in that the box blank (20; 42), in transport position, forms a rigid transport container (22; 44) at least partly enclosing the bag retainer hoop (4) and the bags (2) and the hoop (4) and having side panels (26, 28, 30, 32) which laterally surround the bags (2) and the hoop (4), and interconnected top panels (34, 36, 38, 40) which at least partly cover the bags (2), and which bend the bag retainer hoop (4) down against the bags (2), such that the hoop (4) is maintained in place and its pointed ends are covered.
2. Device as claimed in claim 1, **characterised** by an opening formed in the upper side of the transport container (22; 44) to enable not only identification of the contents of said container, but also opening of said container in an easier manner.
3. Device as claimed in claim 1 or 2, **characterised** in that some of the top panels (36, 40; 34, 38) forming the upper side of the blank have adhesive areas (36a, 36b, 40a, 40b) which, in the transport position of the container, are attached to other top panels (34, 38; 36, 40) forming the upper side of said blank.

4. Device as claimed in claim 1 or 2, **characterised** in that some of the top panels (36, 40) forming the upper side of the blank have flaps (50, 52 and 46, 48, respectively) which, in the transport position of the container, pass through slits (56, 58 and 52, 54, respectively) in other top panels (34, 38) forming the upper side of said blank.
5. Device as claimed in any one of claims 2-4, **characterised** in that the opening of the transport container is covered by a transparent sheet or film.

Patentansprüche

1. Spendevorrichtung für Verpackungsmaterial, umfassend eine Mehrzahl von Beuteln (2) zur Verpackung verschiedener Arten von Produkten, einen U-förmigen Beutelnrückhaltebügel (4), der dazu bestimmt ist, in einer Verpackungsmaschine befestigt zu werden, und einen Schachtelzuschnitt (20, 42), in welchem der Beutelnrückhaltebügel (4) und die Beutel (2) in einer bestimmten Rastposition auf einem Boden (24) des Schachtelzuschnitts (20, 42) platziert sind, dadurch gekennzeichnet, daß der Schachtelzuschnitt (20, 42) in der Transportstellung einen festen Transportbehälter (22, 44) bildet, der wenigstens teilweise den Beutelnrückhaltebügel (4) und die Beutel (2) und den Bügel (4) umschließt und Seitenwände (26, 28, 30, 32) aufweist, die die Beutel (2) und den Bügel (4) seitlich umgeben, und damit verbundene Deckwände (34, 36, 38, 40), die wenigstens teilweise die Beutel (2) überdecken und die den Beutelnrückhaltebügel (4) nach unten gegen die Beutel (2) biegen, so daß der Bügel (4) an seinem Platz gehalten und seine spitzen Enden überdeckt sind.
2. Vorrichtung nach Anspruch 1, gekennzeichnet durch eine in der Oberseite des Transportbehälters (22, 44) geformte Öffnung zur Ermöglichung nicht nur der Identifikation des Inhalts des Behälters, sondern auch zur Öffnung des Behälters in einfacher Weise.
3. Vorrichtung nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß einige der Deckwände (36, 40; 34, 38), welche die Oberseite des Zuschnitts bilden, klebende Bereiche (36a, 36b, 40a, 40b) aufweisen, die, in der Transportposition des Behälters, an anderen Deckwänden (34, 38; 36, 40), die die Oberseite dieses Zuschnitts bilden, befestigt sind.

4. Vorrichtung nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß einige der Deckwände (36, 40), die die Oberseite des Zuschnitts bilden, Laschen (50, 52 und 46, 48) aufweisen, die in der Transportstellung des Behälters durch Schlitz (56, 58 und 52, 54) in anderen Deckwänden (34, 38), die die Oberseite des Zuschnitts bilden, gesteckt sind. 5
5. Vorrichtung nach einem der Ansprüche 2 bis 4, dadurch gekennzeichnet, daß die Öffnung im Transportbehälter durch ein transparentes Blatt oder einen Film überdeckt ist. 10

Revendications 15

1. Dispositif de distribution de matière d'emballage, comprenant une pluralité de sacs (2) destinés à l'emballage de différents produits, un étrier en U de retenue de sac (4) conçu pour être fixé dans une machine d'emballage, et une découpe de caisse (20; 42), dispositif dans lequel l'étrier de retenue (4) et les sacs (2) sont placés dans une position de repos prédéterminée sur le fond (24) de la découpe de caisse (20; 42), **caractérisé** en ce que la découpe de caisse (20; 42) forme, dans une position de transport, un conteneur rigide (22; 44) qui, au moins partiellement, entoure l'étrier de retenue (4) et les sacs (2), et qui comporte des panneaux latéraux (26, 28, 30, 32) qui entourent les sacs (2) et l'étrier de retenue (4) latéralement, ainsi que des panneaux de dessus (34, 36, 38, 40) qui sont reliés entre eux et, au moins partiellement, couvrent les sacs (2) et qui font plier l'étrier de retenue (4) vers le bas contre les sacs (2), de sorte que ce dernier soit maintenu en place et ses extrémités pointues soient couvertes. 20 25 30 35 40
2. Dispositif selon la revendication 1, **caractérisé** en ce qu'une ouverture est pratiquée dans la face supérieure du conteneur (22; 44) pour permettre l'identification du contenu dudit conteneur, et pour faciliter l'ouverture dudit conteneur. 45
3. Dispositif selon la revendication 1 ou 2, **caractérisé** en ce que certains des panneaux de dessus (36, 40; 34, 38) formant le côté supérieur de la découpe présentent des régions collantes (36a, 36b, 40a, 40b) qui, dans la position de transport dudit conteneur, sont attachées à d'autres panneaux de dessus (34, 38; 36, 40) formant le côté supérieur de la découpe. 50 55

4. Dispositif selon la revendication 1 ou 2, **caractérisé** en ce que certains des panneaux de dessus (36, 40) formant le côté supérieur de la découpe sont munis de pattes (respectivement 50, 52 et 46, 48) qui, dans la position de transport dudit conteneur, passent par des fentes (respectivement 56, 58 et 52, 54) pratiquées dans d'autres panneaux de dessus (34, 38) formant le côté supérieur de la découpe.
5. Dispositif selon l'une quelconque des revendications 2 à 4, **caractérisé** en ce que l'ouverture du conteneur est couverte d'une feuille transparente ou d'un film transparent. 15

FIG_1

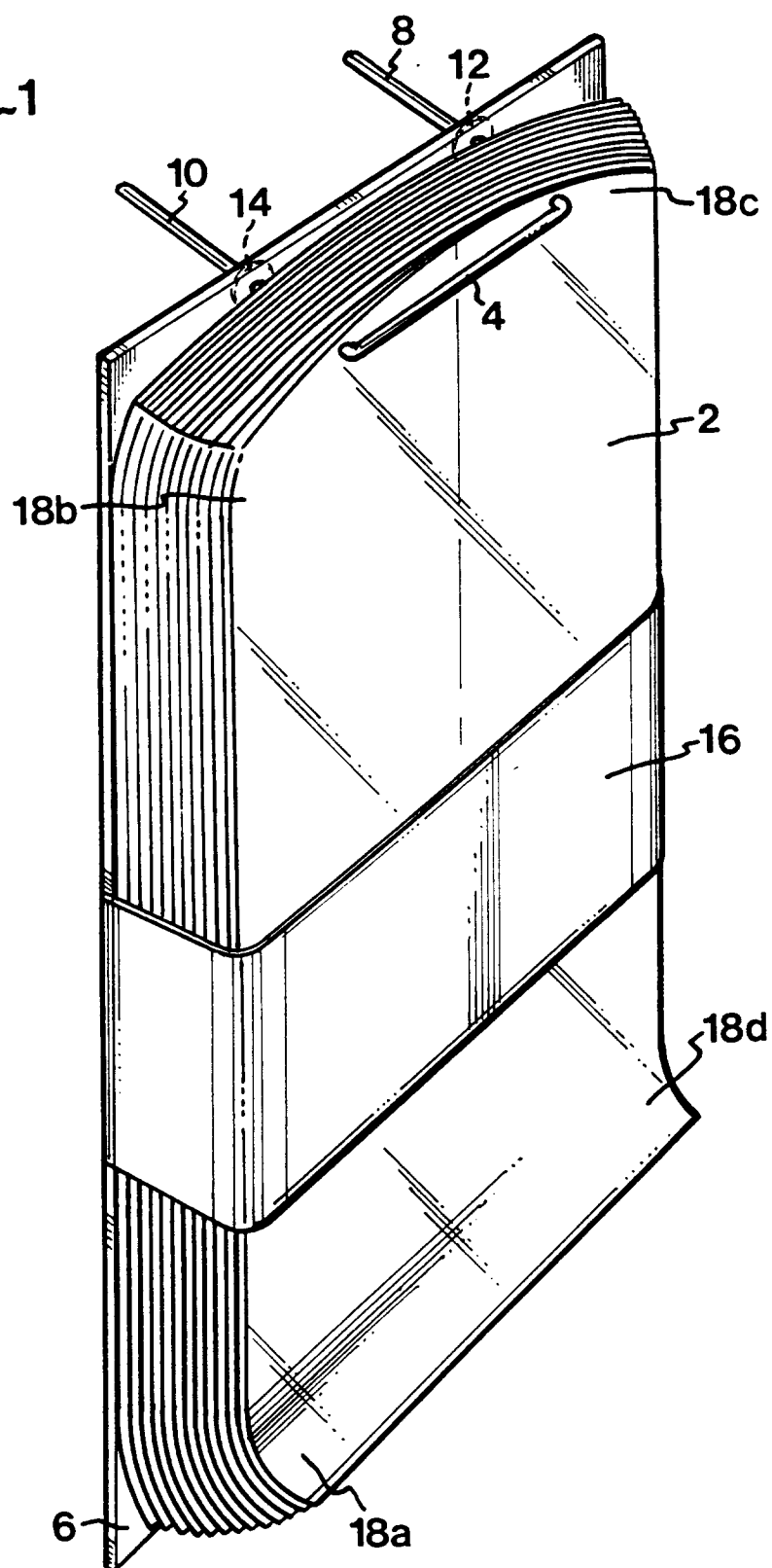
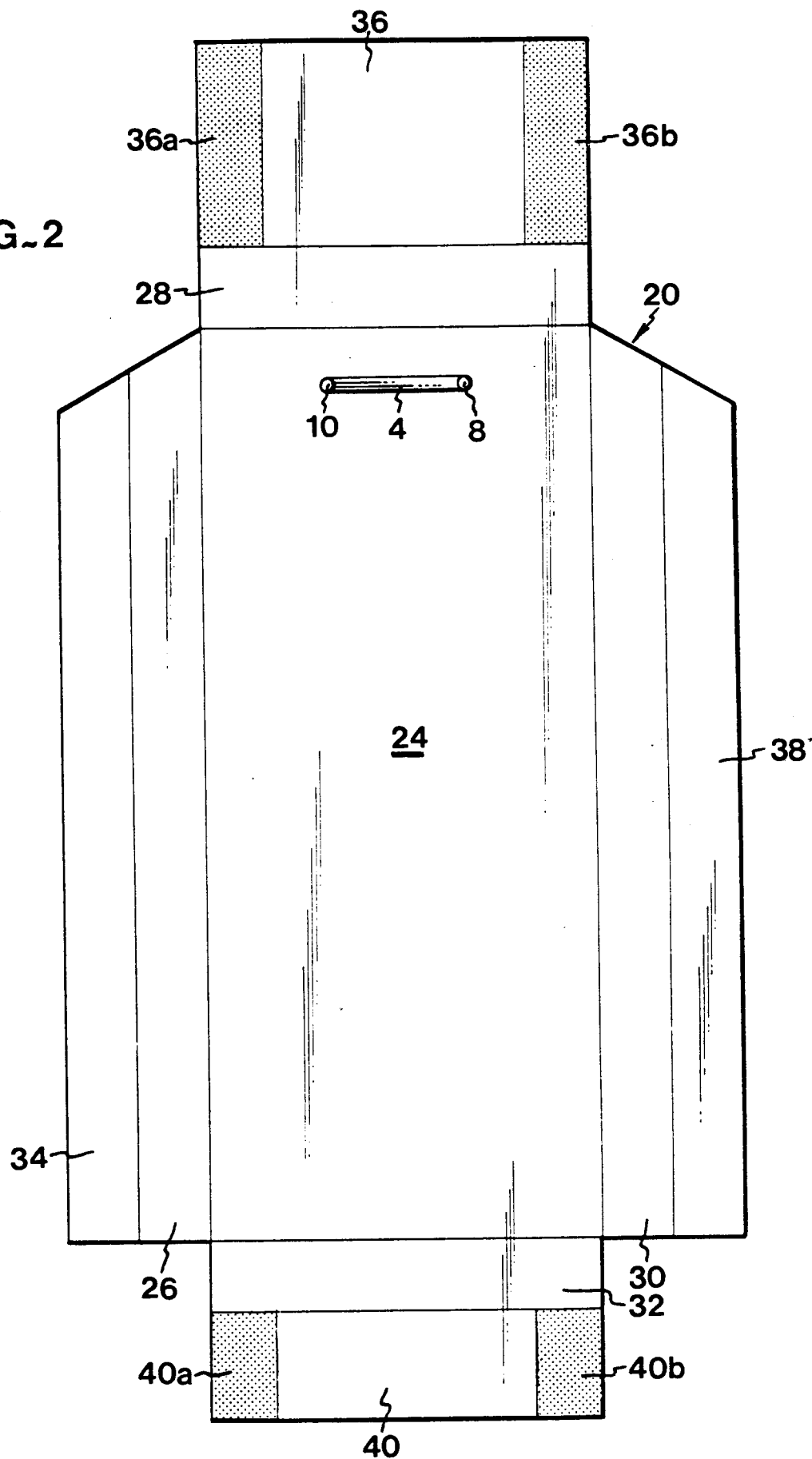


FIG. 2



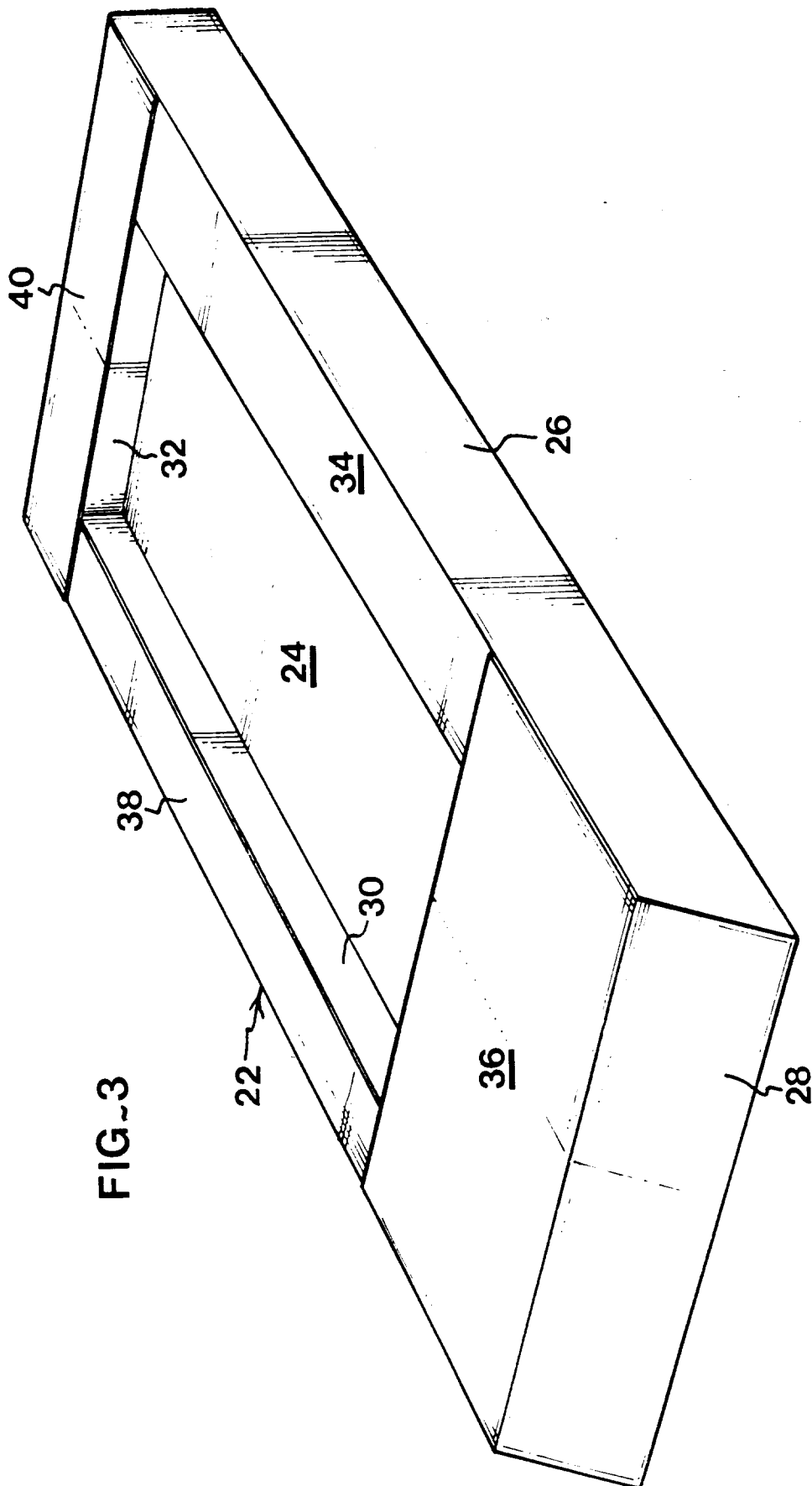


FIG. 4

